2

The abundance of available setting parameters normally allows
the same raw image supplied by the x-ray detector to be refined
into final images that can significantly differ with regard to
their optical appearance. However, the expected image
5   appearance and the appearance that is believed to be optimal
generally differ from radiologist to radiologist. This leads to
individual adjustments with regard to the image refining
normally having to be effected in the installation of an x-ray
system, in order to adapt the final images generated by the x-
10 ray apparatus to the taste or the precedent of the x-ray
department, or even to the individual radiologist.

This adjustment process must normally be performed in close
collaboration between the technicians carrying out the
15 installation and the intended users, in other words
radiologists or other application specialists, particularly as
the setting of the abstract parameters presupposes detailed
knowledge of the image refining technology, which cannot be
assumed to be the case in respect of the application
20 specialists who are as a rule medically trained. Considerable
resource requirements in terms of personnel and time are
therefore associated with installation of the x-ray apparatus.
This is due particularly to different sets of image processing
parameters having to be created for each organ (for example
25 thorax, hip, abdomen, skull, extremities, etc.) to be acquired
by the x-ray apparatus, each projection (lateral, aperior-
posterior, oblique, etc.), and possibly different generator
settings (voltage, current, filtering, dose).

30 A method for the selection of equipment parameters for an x-ray
device, such as tube voltage and tube current, is known

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2a

from US 2003/0108154 A1. For selection of the equipment parameters, a sample x-ray image preselected in accordance with a user-defined parameter model is displayed to a user, which simulates an image impression of an x-ray image such as is to be expected when setting the predefined equipment parameters on the x-ray device. When a sample image is selected by the user, the assigned equipment parameters are in so doing set on the x-ray device.

Claims

1. Method for image refining of digital x-ray images in which
a predetermined modification is performed on image data (B)
for an x-ray image to be processed by at least one image
processing module (A_i), dependent on at least one parameter
(p_{ij}),
- whereby the or each parameter (p_{ij}) is supplied to the image
  processing module (A_i) from a current parameter set (P^{akt}),
- whereby a plurality of standard parameter sets is stored
  ($P^{Nr.k}$), from which the current parameter set (P^{akt}) can be
  selected,
- whereby an associated model image ($V^{Nr.k}$) can be displayed
  for each standard parameter set ($P^{Nr.k}$) by using stored image
  data,
- whereby the selection of the standard parameter set ($P^{Nr.k}$)
  is effected by selecting the associated model image ($V^{Nr.k}$).

7. Image refining unit (12) for an x-ray apparatus (1), having
at least one image processing module (A_i) which is designed to
perform a predetermined modification of image data (B) of an
x-ray image to be processed, dependent on at least one
parameter (p_{ij}), having a model memory (29) in which a
plurality of standard parameter sets ($P^{Nr.k}$) is stored from
which the current parameter set (P^{akt}) can be selected, having
an image model memory (30) in which image data (B) is stored,
the use of which allows an associated model image ($V^{Nr.k}$) to be
displayed for each standard parameter set ($P^{Nr.k}$), whereby a
model image ($V^{Nr.k}$) can be selected and the selection of the
associated standard parameter set ($P^{Nr.k}$) is effected through
selection of the model image ($V^{Nr.k}$).

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